

## Effect of Nozzle Orifice Diameter

### High-Speed Schlieren Movies of Diesel Sprays

Parameter	Small Orifice Diameter	Large Orifice Diameter
Ambient O <sub>2</sub> [%]	21	21
Ambient Temperature [K]	1000	1000
Ambient Density [kg/m <sup>3</sup> ]	28	28
$\Delta P_{inj}$ [MPa]	136	137
Orifice Diameter [mm]	0.200	0.260

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Fuel is #2 diesel fuel. Injector tip to wall is 109 mm.

The penetration rate decreases with decreasing orifice diameter (Naber SAE 960034). The momentum of the spray scales with nozzle area for sprays with the same injection pressure above ambient.

For further information, contact Web Grand Pooh-Bar  
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